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| APPLICATION NO.                                                                      | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.     | CONFIRMATION NO.       |
|--------------------------------------------------------------------------------------|-------------|----------------------|-------------------------|------------------------|
| 10/587,448                                                                           | 07/25/2006  | Lechong Chen         | 42P18662                | 5361                   |
| 8791                                                                                 | 7590        | 11/26/2007           |                         |                        |
| BLAKELY SOKOLOFF TAYLOR & ZAFMAN<br>1279 OAKMEAD PARKWAY<br>SUNNYVALE, CA 94085-4040 |             |                      | EXAMINER<br>BAE, JI H   |                        |
|                                                                                      |             |                      | ART UNIT<br>2115        | PAPER NUMBER           |
|                                                                                      |             |                      | MAIL DATE<br>11/26/2007 | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/587,448

Applicant(s)

CHEN ET AL.

Examiner

Ji H. Bae

Art Unit

2115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9-1-2006.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 19-28 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 19 recites an apparatus comprised of a machine accessible medium. Applicant's specification teaches that machine accessible media may include "microwaves, radio waves, and other electromagnetic or optical carriers". Microwaves, radio waves, and other electromagnetic or optical carriers do not fall within any of the four statutory categories for invention. That is to say, carrier waves are not a process, machine, article of manufacture, or composition of matter. Therefore, the claims are directed towards non-statutory subject matter.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al., U.S. Patent No. 2004/0054839 A1, in view of Westerinen et al., U.S. Patent No. 6,119,185, in view of Kinney ("Solving BIOS Boot Issues with EFI", Intel Developer Update Magazine).

Regarding claim 1, Lee teaches a method comprising [Fig. 2]:

determining, during a process of booting a processing system, whether sufficient resources are available to meet resource requests for multiple devices associated with a PCI subsystem [Fig. 2, step 203];

retrieving boot information [Fig. 2, steps 201, 202, paragraphs 24, 25];

allocating resources if sufficient resources are available, and not allocating resources if the sufficient resources are not available [Fig. 2, steps 204, 206].

Lee does not teach an EFI environment, and that resources are allocated to boot-critical devices and not for others when resources are not sufficient to allocate resources for all devices in the system.

Westerinen teaches a system for allocating memory resources for PCI devices, wherein an ordered list is created that ensures that PCI boot devices will be allocated memory resources first before other devices [col. 7, lines 34-40].

It would have been obvious to one of ordinary skill in the art to combine the teachings of Lee and Westerinen by modifying the system of Lee to place priority during memory allocation on boot devices, as taught by Westerinen. Both Lee and Westerinen are directed towards allocating memory for PCI devices during boot. Westerinen teaches that most users will boot from a device that resides on the PCI bus, and therefore it is necessary to allocate memory to these devices before others. Lee is also directed at allocating memory in a PCI subsystem during system boot, and also teaches that users may configure which peripheral devices will receive memory allocation first [paragraph 27, lines 4-5]. Based on Lee's suggestion, it would have been obvious to one of ordinary skill in the art to combine the teachings of Westerinen to the method of Lee. The teachings of Westerinen would improve the method of Lee by ensuring that boot devices have the required memory allocated to them. Since Westerinen ensures boot devices are allocated memory, if a device is not needed for boot and memory is available, it will

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be allocated memory after the boot devices. Otherwise, the device will not be allocated any memory [Lee, paragraph 28].

Kinney teaches an EFI environment [page 3, "Overview" and "The EFI Concept"].

It would have been obvious to one of ordinary skill in the art to combine the teachings of Lee and Westerinen with Kinney by implementing the pre-boot environment as an EFI environment. Kinney teaches that EFI provides a number of improvements over existing BIOS-based booting methods [page 3, "The EFI Concept", page 5, "Summary"], such as those represented by Lee and Westerinen. Thus, it would have been obvious to one of ordinary skill in the art to implement the pre-boot environment of Lee/Westerinen as an EFI environment to provide such improvements.

Regarding claim 2, it would have been obvious to one of ordinary skill in the art to disable the devices that are not required for boot when resources cannot be allocated to them. Since the necessary resources are not available, and since the devices are not critical for booting, there is nothing to be gained by enabling them.

Regarding claim 3, Kinney teaches that the EFI environment provides console services [page 3, "The EFI Concept", second paragraph].

Regarding claim 4, Lee teaches that devices are discovered by scanning the PCI subsystem [paragraph 24, detecting peripheral devices].

Regarding claims 5-9, Lee teaches :

at least two PCI devices [Fig. 1], collecting resource requests from them, and determining whether sufficient resources are available [paragraph 25];

a PCI host bridge [Fig. 1, PCI host bridge 106], and that resource availability is determined automatically;

rejecting a PCI device based on a rejection policy [insufficient memory, paragraph 28].

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Regarding claims 10-28, Lee/Westerinen/Kinney teaches the method of claims 1-9, and also the apparatus to implement the claimed method, and also the machine readable medium with instructions to implement the claimed method.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Wilson et al., U.S. Patent Application Publication No. 2003/0041088 A1,

Patel et al., U.S. Patent No. 6,873,33 B1,

Dawson, III et al., U.S. Patent No. 6,145,021,

Patel, U.S. Patent No. 5,999,989,

Lichtman et al., U.S. Patent No. 5,819,107,

Dawson, III et al., U.S. Patent No. 6,154,836,

Willke, II et al., U.S. Patent No. 6,708,240 B1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ji H. Bae whose telephone number is 571-272-7181. The examiner can normally be reached on Monday-Friday, 10 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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